

LOW LOSS RF MEMS-BASED PHASE SHIFTER

ABSTRACT OF THE DISCLOSURE

A hybrid circuit phase shifter assembly of RF MEMS switch modules and passive phase delay shifter circuits uses a low loss, preferably flip-chip, interconnection
5 technology. The hybrid circuit assembly approach separates the fabrication of the MEMS switch modules from the fabrication of the passive phase delay circuits thereby avoiding process incompatibilities and low yields and providing substantial production cost savings. In
10 another aspect of the invention, the integration on a common substrate of a MEMS-based hybrid circuit phase shifter assembly behind each of a plurality of radiating elements provides a compact, low cost electronic scanning antenna array.